INDIAN INSTITUTE OF TECHNOLOGY KANPUR
Department of Chemical Engineering

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Enquiry No: IITK/CHE/FIST/YJOSHI-1-REVISED

Enquiry Date:02/07/2018

Closing Date:23/07/2018

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Tender Notice

Sealed quotation(s) in Indian Rupees with all technical details so as to reach latest by 3:00 PM on July 23, 2018 are invited for the supply of following item

Differential Scanning Calorimeter

Tender Specifications

1) A Heat Flux Modulated Differential Scanning Calorimeter (MDSC) whereby the sample and the reference are measured in the same furnace.

2) Temperature range: Minimum range of -90°C to 700°C

3) Cooling Accessories: Suitable Liquid N2 free cooling accessory

4) Furnace (preferably of Silver) shall be constructed in such a way that it can sustain rapid heating/cooling, provide uniform thermal environment, resistance to corrosion and long furnace lifetime.

5) Temperature Sensor: Either Area temperature detectors directly beneath the sample and reference positions or thermocouple based

6) Temperature accuracy should be +/-0.2°C or better.

7) Temperature Precision should be +/-0.02°C or better

8) DSC Heat flow Baseline Accuracy (Defined as maximum allowable error from the theoretical value 0 µW) : ±(100) µW or better. Vendor must attach a Baseline Curve (Heat Flow Vs Temperature with Empty Pans) measured in 2 different temperature zones: -85 deg C to ambient & ambient to 700 deg C. Heat Flow axis (Y-axis) scale and Temperature axis (X-axis) scale must be very clearly visible.

9) Heat Flow Resolution: 0.04 µW or better

10) Furnace temperature resolution : 0.00006°C or better

11) Heating rate : 0.02 °C/min (or lower) to 200 °C/ min (or higher)

12) Controlled Cooling rate : 0.02 ^{0}C/min (or lower) to 50 ^{0}C/ min (or higher)

13) Pressure : Ambient

14) Purge gas : Inert or reactive gases

15) Calibration standards should be provided with tool kit for both temperature and heat flow. The system should have option for flexible calibration, should not demand recalibration on change of crucible, use/switching of different gases or changing heating rates.

16) Crucibles (both for solid and liquid samples) of different volumes: Wide choice viz. Aluminium (1000 Nos), Platinum (10), Alumina (50) with lids and a sealing press to analyze different types of samples. The sealing press should have the capability of crimping and hermetic encapsulation of a wide variety of materials.

17) DSC must include dual mass flow controllers integrated with the system and with gas switching through software control. Purge gas flow rate should be programmable within operating software and deliverable as a saved signal in the data file. Gas delivery control must also allow for automated switching between the two gases during an experiment. Moisture filter should be provided along with instrument.

18) Necessary gas cylinders with regulators for the operation should be provided.

19) Crimper and die set to be supplied along with the instrument for sample preparation of both dry powder and liquid samples.

20) DSC must include operating software which should be user friendly. The data analysis software should be unkeyed, to allow for unlimited installations within one site.

21) The analysis software should do smoothing of curves, curve subtraction, auto-evaluation to evaluate peak temperature, onset temperature, signal minimum, signal maximum, signal change, polynomial fitting, area under the curve, peak height, glass transition temperature, peak integration (enthalpy), melting temperature, percentage of crystallinity, purity analysis, crystallization and curing temperature.

22) System should have direct measurement of Specific heat capacity (Cp) with enhanced ability to detect low energy thermal transitions. Vendor must clearly mention the software that they will provide for direct measurement of specific heat capacity.

23) Power supply : 220V/50Hz.

24) UPS: Suitable UPS with 30 minutes back-up should be provided by the vendor along with the instrument.

25) The Instrument should be supplied along with Branded Latest PC (i7 processor, 8 GB RAM (e.g. HP/Dell), 1TB HD, CD-ROM or DVD+RW Drive, minimum 3 USB ports, Operating system: Windows 10 Professional (64 bit) or better, Monitor type: Wide Screen monitor (minimum 21") and a Color Laser Printer.

26) Service Support: Factory trained Engineers, specify the no. of Engineers with base location, Response time, Availability of Parts / Consumables / Warranty / AMC costs with no. of visits.

27) The service personnel should respond within 24 hrs. and be on campus in 72 hrs. for repairs.

28) 5 years comprehensive (labour and parts) warranty on instrument.

29) Yearly AMC after the expiry of warranty period should be quoted as optional.

30) Each technical specification in the tender must be justified by the online catalogue available in the official website of the vendor. No other document will be acceptable as proof.

Terms & Conditions:

1) Quotations must reach undersigned by 23.07.2018 by 3.00 pm
2) Quotations should have a validity of minimum of 90 days.
3) Atleast 10 users list should be provided with satisfactory certificates.
4) Technical specification sheets, authorization certificate or proprietary certificate (if applicable) and Any other relevant documentation should be included with the quotation.
5) Quotations are required in duplicate: (1) TECHNICAL BID (2) FINANCIAL BID, in separate Sealed envelopes, both to be finally put in one single envelope with Tender Enquiry Number Mentioned clearly in all sealed envelopes.
6) The technical bid should include a signed copy of the compliance certificate against the tender specifications.
7) The tender specifications should be justified with company catalogue.
8) Please specify the maximum permissible educational discount, if any.
9) Delivery of system should be within 3-4 weeks on receipt of the final purchase order.
10) The downtime of service should be taken care within 48-72 hours on information, otherwise it is subjected to penalty.

11) The rate offered should show both FOB (your international airport) ,CIF (New Delhi) and IIT Kanpur including packing and forwarding, Insurance and fright.
12) Please clearly mention the tax rate (like GST etc.) and transportation charges up to IIT Kanpur, India.
13) After sales Service in India and warranty period should be clearly mentioned.
14) The Institute reserves the right of accepting and rejecting any quotation without assigning any reason.
15) Quotations by E-mail will not be accepted.

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Kindly mention the enquiry number on the sealed envelope carrying the quotation and send the sealed quotation(s) to the following address:

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